Proposal for an International Workshop on

Fast Neutron Detection and Applications (FNDA2005)

to be held in Cape Town, South Africa, October 2005

The many, varied techniques used for the detection of fast neutrons, developed over the last four decades, have found use in a diverse range of contexts from nuclear and high-energy physics experiments to applications in industrial and medical fields. With the emergence of new technologies, methods for the detection of fast neutrons are constantly evolving and finding novel applications. In order to bring together people working with fast neutrons in different fields, the Physikalisch-Technische Bundesanstalt (PTB), Germany, and the University of Cape Town (UCT), South Africa, intend to organize a workshop in Cape Town around October 2005. The scope of the workshop would include all work related to the **detection and application of neutrons in the keV to GeV energy range**, including:

1. **Fast neutron detectors** (instruments for neutron spectrometry and radiography, modeling of detectors, ...)
2. **The physics of fast neutron detector materials** (scintillation mechanisms, innovative materials, ...)
3. **Data analysis techniques relevant to applications of fast neutrons** (unfolding algorithms, image reconstruction, ...)
4. **Fast neutron beam facilities** (characterization of monoenergetic and white sources, spallation sources and reference beams, innovative sources for technical applications, ...)
5. **Fast neutron detection in basic nuclear and high-energy physics experiments**
6. **Fast neutron detection in nuclear technology** (fission, fusion, transmutation, ...)
7. **Fast neutrons as diagnostic probes for non-nuclear applications** (radiography, minerals and food industries, humanitarian demining, detection of contraband and illicit materials, laser-plasma interaction, space science...)
8. **Fast neutrons in medicine** (neutron therapy, secondary neutrons in hadron and heavy ion therapy, radiobiology, ...)

Note that reports on nuclear data, except those of direct relevance for detector modeling, and on radiation protection issues are likely to be excluded since these topics are covered by other dedicated and regular conference series.

It is envisaged that the workshop programme will be designed to maximize the opportunities for the exchange of information between participants. Parallel sessions will be avoided by using both oral and poster presentations. The proceedings of the workshop should be published in a peer-reviewed journal. It is planned to make limited support available for young scientist and for scientist from developping countries.

A first announcement for FNDA2005 will be distributed in April 2004 if sufficient interest for this workshop can be attracted. Please return the attached letter-of-interest before April 2004 and circulate this email to other colleagues who might be interested. Thank you very much in advance!

We hope to see you in Cape Town in 2005!

On behalf of the organizers:

Andy Buffler (UCT) and Ralf Nolte (PTB)

Request for a letter-of-interest

The organizers would be glad to receive your reaction to the proposed workshop 'Fast Neutron Detection and Applications (FNDA2005)'. Please answer the following questions and forward this letter by email to FNDA2005@PTB.de before April 2004.

1. If this workshop took place, then I would seriously consider attending (yes/no):
2. If I attended the workshop, then I would probably present a paper under the following broad topic (see 1 - 8 above):
3. Further suggestions (if any):
4. I would be glad to receive the first announcement by email:
   Name:
   Affiliation:
   Email address: